GOVERNMENT OF NEWFOUNDLAND AND LABRADOR

Highway Planning and Research
Department of Transportation
St. John's, Newfoundland

DEPARTMENT OF TRANSPORTATION

VEHICLE OPERATING COSTS FOR INPUT TO THE USER BENEFIT PROGRAM 1984 UPDATE

RESEARCH REPORT NO. 26

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SUMMARY AND RECOMMENDATIONS

This paper has updated unit costs for a Highway Priority Program. The survey method has weaknesses, and corrective action should be taken. The following are recommendations which should rectify any inherent weaknesses in the survey method:

1. The telephone survey should be used in future updates.
2. Because the written survey does not contain any information that supplements the telephone interview, it is not necessary to send out written forms. An exception is the Vehicle Cost Survey which has precise descriptions which the interviewer may require beforehand to obtain accurate information.
3. The list of retail outlets and garages to be surveyed should be checked annually to ensure the business still exists and proper addresses.
4. The researcher should have a technical knowledge of the questions being asked. Items to be considered include:
   (i) truck specifications

   The truck survey caused some confusion as several dealers indicated that the specifications were unrealistic, and not consistent with the vehicles they sold.

(ii) Ambiquity realized in 'high/low' grade oil. Due to the number of brands and qualities of oil available in Newfoundland, a clearer definition of high grade/low grade oil must be set. If not, the results will be weakened since what is considered high grade in some regions, may be low in others. Hence, Provincial costs will be unrealistic.

5. Because several tire dealers indicated that fall/winter tires and spring/summer tires were generally of equal price and quality, the seasons for tires should include only "summer tires" and "winter tires".

I. INTRODUCTION

This paper is an update of three previously completed reports, and therefore does not detail all procedures. For information on these procedures, the reader should consult the earlier studies, which are referred here as:

1. Research Report No. 4
   Nicol, Jane R., December, 1979

2. Update, 1981
   Power, Jeanette M., July, 1981

3. Update, 1982
   Perry, Catherine J., July, 1982

The purpose of this paper is to revise input data for the calculation of vehicle operating, travel time, and accident costs for 1982. These calculations will serve as input into the Computerized Priority Analysis Program, as seen in Appendix A. This program is used to establish the relative priority of roads in needs capital improvement by comparing pre-project and after-project vehicle operating, travel time and accident costs.

Appendix A describes the survey as undertaken this year, and evaluates its success. Further updates should be developed in consultation with this guideline.

II. REPRESENTATIVE VEHICLES

Representative passenger vehicles include 4, 6, and 8 cylinder cars and 4 wheel drive vehicles. The description trucks and transports is specific, and is given as:

TABLE I

DESCRIPTION OF REPRESENTATIVE TRUCKS

	Single Unit Trucks	Combination Unit
	2 axles, 6 wheels	4 axles, 14 wheels
Curb Weight	4,745 lbs.	25,000 lbs.
Rated GVW	14,000 lbs.	57,000 lbs.
GVW Used	12,000 lbs.	40,000 lbs.
Engine	6-cylinder	6-cylinder
Net Horsepower	145	180
Weight/Power Ratio	82	220

SOURCE: Ontario Ministry of Transportation and Communications, "Road User Benefit Calculation Package," Volume 1, 1976, p. 29.

III. SURVEY RESULTS

Most of the required information was obtained through a survey. This survey divided the Province into five districts (see Appendix B), and was sent to a number of businesses. Information asked included:

TABLE II

INFORMATION ASKED TO NUMBERS OF BUSINESSES IN SURVEY

	Information Asked	# Per District
(i)	Unit costs of Gas, Diesel and oil	9
(ii)	Unit cost of Tires	5
(iii)	Unit cost of Mechanic's Labour	5
(iv)	Unit costs of Trucks	3

The results of these four areas will be addressed in the following sections.

A. Unit cost of Gasoline, Diesel Fuel and Oil

Table II shows the results of the gasoline survey. The input costs exclude taxes, however, the relative tax amounts are included for the purpose of the user. See Appendix C for further information.

The average market share of regular, super and unleaded gasoline is approximately 52.1%, 46.1%, and 1.8% respectively. Due to the negligible number of self-serve stations in District V, this type has been omitted.

TABLE III

GASOLINE PRICES FOR AUTOS AND SINGLE UNIT TRUCKS

REGION	AVG. COST/L (Taxes Excluded)	USER/BENEFIT INPUT Avg.Cost/g(Taxes Excluded)
1	.39	1.77
2	.41	1.86
3	.41	1.86
4	.41	1.86
5	.43	1.95

Taxes Include:

1. Tax on Gasoline

   Federal 9% on base price

   Provincial 9.1¢ litre

   Excise 1.5¢ litre

2. Tax on Diesel

   Federal 9% on base price

   Provincial 11.6¢ litre

3. Tax on Oil

   Provincial 12% sales tax

These taxes are as of April, 1984.

TABLE IV

DIESEL PRICES FOR TRANSPORT TRUCKS

REGION	AVG. COST/L (Taxes Excluded)	USER/BENEFIT INPUT Avg.Cost/g(Taxes Excluded)
1	-	-
2	.40	1.82
3	.41	1.86
4	.40	1.82
5	.44	2.00

TABLE V

OIL COSTS: ALL VEHICLES

REGION	AVG. COST/L (Taxes Included)	USER/BENEFIT INPUT Avg.Cost/g(Taxes Included)
1	2.51	2.85
2	2.35	2.67
3	2.31	2.62
4	2.34	2.66
5	2.75	3.12

B. User Cost of Tires

The retail price of tires, as shown in Appendix D, was obtained from surveying five retail tire outlets in each of the five districts. Table VI shows Provincial averages. The price of a tire retread is included in the user/benefit cost of tires of a single unit truck, while 2.5 retreads are included in the calculations for transport trucks.

Representative tires are:

1. Size P205/75R14: Passenger Cars
2. Size 800 x 16.5: Single Unit Trucks
3. Size 900 x 20: Transport Trucks

TABLE VI

NEW TIRE COSTS: ALL REGIONS

	New Tire Cost	+Retread	U/B Input Value
Car	80.93	-	80.93
Single Unit Truck	111.46	72.68x1.0	184.14
Transport Truck	231.20	160.28x2.5	631.90

C. Unit Cost of Mechanic's Labour

This figure was calculated on the basis of responses from five outlets in each region. The current user/benefit input cost is $22.98 (See Appendix E for further elaboration)

IV. VEHICLE DEPRECIATION VALUE

The depreciation value is calculated by reducing the cost of the representative vehicles by the price of a set of tires. The value assigned to passenger cars was determined as follows:

$$\frac{\text{Total Value of New Cars Bought in Nfld in 1983}}{\text{Total \# of Cars Bought}}$$

$$= \frac{\$209,828,000}{20,156}$$

$$= \$\ 10,410.20$$

The purchase price for the representative trucks and transport trucks was obtained from a survey of truck dealers in each region. See Appendix F for further details. The values are:

TABLE VII

VEHICLE DEPRECIATION VALUES

	Price $	Value of Tires	U/B Input Value
Cars	10,410.20	80.93 x 4	10,086.48
S/U Trucks	14,952.28	111.46 x 6	14,283.52
Transport Trucks	100,625.00	231.20 x 14	97,388.20

V. INPUT DATA FOR TRAVEL TIME VALUES

A. Time Costs For Passenger, Cars

1. Travel Time for Work Trips

This value is expressed in dollars/hour/person.

Calculations are:

Average Gross Weekly Wage (1984) = $386

Average Weekly Working Hours = 35.6

Travel Time for Work Trips = $\frac{386.00}{35.6}$ = $10.84

2. Travel Time for Non-Work Trips

Estimated personal disposable income per capita (Nfld) 1983 = $7,516.00

Hour Average Personal Disposable Income per capita (Nfld) 1983

7 @ 24 = 168 hours/week

7 @ 8 = 56 hours of sleep

= 35.6 hours of work

= 76.4 hours

$\frac{7,516.00}{76.4x52} = \frac{7,516.00}{3,972.80}$ = $1.89

3. Journey to Work Value

Minimum Hourly Wage = $3.75

4. Calculation of Weighted Travel Time Value for Passenger Cars

Table VIII shows the travel time values for passenger cars, determined by an Origin-Destination Survey as presented in Appendix G.

The following procedures were used to calculate the values of travel time for work trips, travel time for non-work trips, and the journey to work:

(a) Value of Business Time

$$\frac{\text{Average Weekly Wage}}{\text{Average Weekly Hours}} = \frac{386.0}{35.6} = \$10.84$$

(b) Value of Journey to Work = Minimum Wage

= $3.75

(c) Value of Social Time = hourly average disposable income in Nfld.

= $1.89

TABLE VIII

TRAVEL TIME PERCENTAGE FOR PASSENGER CARS

	District 1	District 2	District 3	District 4
Work	42%	36%	38%	35%
Pers.Bus.	18%	15%	15%	21%
Social	40%	49%	47%	44%
Mean#Pass	2.42	2.91	2.86	2.63

SOURCE: Origin-Destination Survey, 1979

The weighted values for passenger cars are:

District 1 (Figures are hourly)

$3.62 per person/car

$8.76 per passenger car/hour

District 2

$3.29 per person/car

$9.57 per passenger car/hour

District 3

$3.33 per person/car

$9.52 per passenger car/hour

District 4

$3.69 per person

$9.71 per passenger car/hour

Currently, the Department of Transportation is conducting an Origin-Destination Survey and the results should be available in the future. In future studies, the results of the most current, Origin-Destination Survey should be used.

VI. TIME COSTS FOR TRUCKS

Time costs for both single unit and transport trucks have been assumed as the driver's average wage. Please refer to Table IX for these figures.

The calculation doubles these values since drivers receive fringe benefits from their employers, earn higher dividends on longer trips, and often have a helper on longer trips, and often have a helper on long distance trips. Hence, the value assigned is:

Heavy Trucks 2 x 9.00 = $18.00

Light Trucks 2 x 6.00 = $12.00

TABLE IX

TRUCK DRIVER'S AVERAGE HOURLY WAGE*

Heavy		Light	
High	$10.00	High	$7.00
Low	$ 8.00	Low	$5.00
Average	$ 9.00	Average	$6.00

*Figures are as of April, 1984

VII. INPUT DATA FOR ACCIDENT COSTS

The information used in these calculations was obtained from the "User Benefit Cost Parameter Update", compiled in July, 1983, by Ontario Ministry of Transportation and Communications. These costs were adjusted to Newfoundland figures by multiplying Ontario's cost value by a ratio of Newfoundland's average weekly wage over Ontario's average weekly wage in 1983.

The following describes the procedure and assumptions used in the calculation of Ontario's accident cost values for:

(a) Fatals

(b) Personal Injury

(c) Property Damage

A. Fatal Costs/Collision

$$43{,}000 \times 3.7313 \times \frac{20{,}275.84}{20{,}275.84} = 160{,}445.90$$

$$2 \times \frac{160{,}445.90}{.955} \times 1.205 = 404{,}894.89$$

Assumptions

1. The Washington study of 1964, which placed an estimated $43,000 on lost earnings per fatal collision, is still applicable.

2. The average wage increase factor in Ontario from 1964 to 1983, was 3.7313.

3. In 1983, the average wage per worker in Ontario was $389.92/week or $20,275.84/year. Because the equivalent value for the United States is unavailable, it is assumed that the two average wages are equal.

4. Based on 1983 MTC estimates, there are 1.205 persons killed/collision.

5. According to the Washington Study, 'future earnings' costs account for 95.5% of all costs of fatal collisions when considering man as a producer.

6. Man is considered a consumer as well as a producer and his non-productive function is considered of equal value. In this calculation, the equation is multiplied by a factor of 2 to account for the assumption that man as a consumer creates a demand for goods and services.

B. Personal Injury Costs/Collision

Assumptions

1. The growth factor in wages in Ontario between 1964 to 1983 was 3.7313.

2. The 1964 estimate of costs per person injured in a collision was $860.

3. Based on 1983 MTC data, approximately 1,651 persons were injured per collision.

4. The average wage in Ontario in 1983 was $20,275.84 per year. It is assumed that this figure is the same for American workers.

$$\frac{\$860}{\text{Person Injured}} \times 3.7313 \times \frac{1.651 \text{ persons injured}}{\text{Collision}} = \$5,298/\text{Collision}$$

C. Property Damage Costs/Collision

Assumptions

1. Wage growth factor is 3.7313.

2. The estimated cost per vehicle damaged in 1964 was $190.

3. 1983 MTC estimates indicated an involvement rate of 1.708 vehicles damaged per collision.

4. The average annual wage in Ontario was $20,275.84 in 1983. This wage is assumed to be equivalent to American wages.

$$\frac{\$190}{\text{Veh. Damaged}} \times 3.7313 \times \frac{1.708 \text{ Veh. Damaged}}{\text{Collision}} = 1{,}211/\text{Collision}$$

D. <u>Accident Cost Values for Newfoundland</u>

Fatal Cost/Collision

$$404{,}894.89 \times \frac{386.00}{389.92} = \$400{,}824.34$$

Personal Injury Costs/Collision

$$5{,}298.00 \times \frac{386.00}{389.92} = \$5{,}244.74$$

Property Damage Costs/Collision

$$1{,}211.00 \times \frac{386.00}{389.92} = \$1{,}198.83$$

BIBLIOGRAPHY

Ministry of Transportation and Communications, Ontario, User Benefit Cost Parameter Update, Highway Program Development Branch, July, 1983.

Perry, Catherine J., Vehicle Operating Costs for Input to the User Benefit Program, 1982 Update, Newfoundland Department of Transportation, July 1982.

Power, J.M., Vehicle Operating Costs for Input to the User Benefit Program, 1981 Update, Newfoundland Department of Transportation, July, 1981.

APPENDIX A

PRIORITY ANALYSIS PROGRAM

... FORM 1.

		JOB IDENTIFICATION
H	3706	

JOB IDENTIFICATION - PRINTED ON EACH PAGE OF OUTPUT.

	FUEL COST $ / IMP. GAL			OIL COST $ / IMP. QT.			TIRE COST $ / TIRE			MECHANIC'S LABOUR $ / HR.			VEH DEPRECIABLE VALUE (COST LESS TIRES)			TIME COST $/HR./PERSON			ACCIDENT COST $ / ACCIDENT		
	C	S	T	C	S	T	C	S	T	C	S	T	C	S	T	C	S	T	FATAL	INJURY	PROPERTY DAMAGE
A	•	•	•	•	•	•				•	•	•				•	•	•			

	INPUT YEARS (MAX 5)					CALC'T SPLIT	TOP NO	TOP HR	TOP SPLIT	SECOND NO.	SECOND HR	SECOND SPLIT	Time Cost/Cost $/Veh. Work	Time Cost/Cost $/Veh. Non-Work	% Non-Wk Trip
B															

	PCS DISTRIBUTIONS ADDITIONAL TO THOSE ON PCS FILE (MAX 10)											
	PCS NO.	VOL. INT (MAX 5 VOL INT VEH. PER	NO OF HOURS FOR EACH VOL. INT OVER ONE YEAR									
			1	2	3	4	5	6	7	8	9	10
C												

C - CAR
S - SINGLE-UNIT TRUCK
T - TRANSPORT TRUCK

CODES

1. ENTER 1 FOR INPUT CHECKING ONLY
2. ENTER 1 IF PCS FILE NOT USED
3. ENTER 1 IF LINK WITH INFLATION/DISCOUNT PROGRAM OR IF PUNCHED CARD OUTPUT FOR ROAD STANDARD SPLIT PROG.
4. ENTER 1 IF INTERMEDIATE OUTPUT NOT REQUIRED
5. LEAVE BLANK FOR USER BENEFIT CALCULATION (AS INPUT TO INFLATION / DISCOUNT PROGRAM TR 3702)
   ENTER E FOR ECONOMICS OFFICE (AS INPUT TO CASH FLOW PROGRAM TR 3707)
6. ENTER 1 IF PLOT OUTPUT FOR ALL PCS STATIONS REQ'D.
   ENTER 2 IF PLOT OUTPUT FOR PCS STATIONS USED REQ'D.

APPENDIX B

SURVEY EVALUATION/DISTRICTS

SURVEY, 1984

This survey was conducted to receive a representative Provincial response of the costs of operating a vehicle in 1984. The following method was used in determining the survey.

Step 1: Obtain the latest population figures for Newfoundland. Choose "centres of significance" in each region. These "centres" are chosen on the basis of population and geographic location.

Step 2: The chosen "centres" will be weighted by population in the respective towns. For example, in District 3, Gander has 37% of the population and thus will be awarded 37% of the businesses surveyed.

Step 3: Prepare surveys.

Step 4: Conduct telephone interviews.

The town/cities for this year's revision are:

(i) District I

St. John's (Metro)

(ii) District II

Burin

Fortune/Grand Bank

Marystown

Glovertown (TCH)

Clarenville

(iii) District III

Gander

Grand Falls

Windsor

Springdale

(iv) District IV

Corner Brook

Port aux Basques

St. Anthony

(v) District V

Goose Bay

Labrador City

Wabush

The update was conducted through the use of a telephone survey. The categories and numbers are:

(i)	Gas and Oil	9 per district
(ii)	Tire	5 per district
(iii)	Mechanic	5 per district
(iv)	Truck Costs	3 per district

Other Statistics

To obtain other statistics required in this report, Newfoundland Statistics on Floor 5, Confederation Building, will supply the necessary information. Data required includes:

(i) Total Value of New Cars Bought in Nfld. in 1983

(ii) Total # of New Cars Purchased in 1983

(iii) Average Gross Weekly Wage

(iv) Average Weekly Working Hours

(v) Personal Disposable Income in Nfld. in 1983

The origin-destination survey is required to calculate travel time values. Truck drivers' hourly wage is available from Employment and Immigration Canada. Ontario data for accident costs may be obtained from the Ontario Ministry of Transportation and Communication, Policy Planning Branch.

APPENDIX C

GASOLINE, DIESEL AND OIL PRICES

GASOLINE, DIESEL AND OIL SURVEY

Type of Gasoline	Price/Litre (incl.tax)		% Gas Sales
	Self-Serve	Attendant	
Regular			
Super			
Unleaded			

Type of Oil	Price/Litre (incl.tax)	% Oil Sales
High Grade		
Low Grade		

	Attendant Price/Litre (incl.tax)
Diesel (Transport Trucks)	$ _____

GASOLINE (FOR AUTOS AND SINGLE UNIT TRUCKS)

Region	Avg. Cost/L Taxes Excluded		
	Attendant		Self-Serve
I	Regular	.40	.37
	Super	-	.38
	Unleaded	.41	.40
II	Regular	.41	.39
	Super	.41	-
	Unleaded	.42	.40
III	Regular	.40	.39
	Super	.42	.41
	Unleaded	.41	.40
IV	Regular	.40	.38
	Super	.43	.41
	Unleaded	.42	.40
V	Regular	.43	-
	Super	.41	-
	Unleaded	.45	-

DIESEL

Region	Avg. Cost/L Taxes Excluded
I	-
II	.40
III	.41
IV	.40
V	.44

OIL COSTS

Region	High Cost/L	Low Cost/L
I	3.95	1.92
II	3.02	1.80
III	2.80	1.88
IV	3.00	1.18
V	3.24	2.35

APPENDIX D

TIRE COSTS

TIRE SURVEY

Tire Prices (For Passenger Cars)

Season	P205/75R14	% of Tire Sales
Summer		
Fall		
Winter		
Spring		

Tire Prices (For Trucks)

Season	800 x 16.5	900 x 20
Summer		
Fall		
Winter		
Spring		

Retread Costs

800 x 16.5

900 x 20

TIRE COST

Region	P205/75R14	800 x 16.5	900 x 20
I	81.27	103.82	229.11
Retread		70.35	120.84
II	77.63	99.63	224.50
Retread		-	-
III	64.48	105.20	218.95
Retread		-	-
IV	70.85	101.03	199.71
Retread		75.00	150.00
V	110.42	147.64	283.75
Retread		-	210.00

APPENDIX E

MECHANIC'S LABOUR COSTS

MECHANIC LABOR COST SURVEY

COMPANY:

Mechanic Labor Charge Per Hour $ _____

Number of Mechanics Employed _____

MECHANIC'S LABOUR COST

Region	Mechanic's Labour Charge (High & Low Observations)	# Mechanics Surveyed
I	32.50	15
	22.50	
II	19.00	6
	15.00	
III	30.00	15
	20.00	
IV	31.75	27
	18.00	
V	27.95	7
	12.00	

APPENDIX F

TRUCK COSTS

VEHICLE COST - 1982 MODELS

Descriotion:

	Single Unit Trucks	Combination Unit
	2 axles, 6 wheels	4 axles, 14 wheels
Curb Weight	4,745 lbs.	25,000 lbs.
Rated GVW	14,000 lbs.	57,000 lbs.
GVW Used	12,000 lbs.	40,000 lbs.
Engine	6-cylinder	6-cylinder
Net Horsepower	145	180
Weight/Power Ratio	82	220

Floor Cost (Excl.tax and Licence)

Single Unit $ _____

Combination (Tractor Trailer) $ _____

SINGLE UNIT AND TRANSPORT TRUCK COSTS

Single Unit Trucks

District 1:	$17,000.00
District 2:	$10,261.40
District 3:	$15,250.00
District 4:	$15,000.00
District 5:	$17,250.00
Average =	$14,952.28

Transport Trucks

District 1:	$135,000.00
District 2:	--
District 3:	$100,000.00
District 4:	$ 82,500.00
District 5:	$ 85,000.00
Average =	$100,625.00

APPENDIX G

ORIGIN-DESTINATION SURVEY

PROVINCE OF NEWFOUNDLAND
DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS

ORIGIN — DESTINATION SURVEY

ATION	DATE	SHEET No.	HOUR ENDING
3 4	5 6 7 8 9 10	11 12 13	14 15 16 17

TYPE OF VEHICLE	No IN VEHICLE	WHERE DID THIS TRIP BEGIN? (LAST STOP/ORIGIN)	TYPE OF ESTABLISHMENT AT ORIGIN	WHERE WILL THIS TRIP END? (NEXT STOP/DESTINATION)	TYPE OF ESTABLISHMENT AT DESTINATION	PROPOSE OF TRIP	HOME BASE OF VEHICLE	LICENCE PLATE No.
19 20	21 22	23 24 25 26 27 28	29 30 31	32 33 34 35 36 37	38 39 40	41	42 43 44 45 46 47	48 49 50 51 52 53 54
19 20	21 22	23 24 25 26 27 28	29 30 31	32 33 34 35 36 37	38 39 40	41	42 43 44 45 46 47	48 49 50 51 52 53 54
19 20	21 22	23 24 25 26 27 28	29 30 31	32 33 34 35 36 37	38 39 40	41	42 43 44 45 46 47	48 49 50 51 52 53 54
19 20	21 22	23 24 25 26 27 28	29 30 31	32 33 34 35 36 37	38 39 40	41	42 43 44 45 46 47	48 49 50 51 52 53 54
19 20	21 22	23 24 25 26 27 28	29 30 31	32 33 34 35 36 37	38 39 40	41	42 43 44 45 46 47	48 49 50 51 52 53 54
19 20	21 22	23 24 25 26 27 28	29 30 31	32 33 34 35 36 37	38 39 40	41	42 43 44 45 46 47	48 49 50 51 52 53 54
19 20	21 22	23 24 25 26 27 28	29 30 31	32 33 34 35 36 37	38 39 40	41	42 43 44 45 46 47	48 49 50 51 52 53 54
19 20	21 22	23 24 25 26 27 28	29 30 31	32 33 34 35 36 37	38 39 40	41	42 43 44 45 46 47	48 49 50 51 52 53 54

OUT OF PROVINCE

Other Canadian
American

TYPE OF VEHICLE

4 cylinder passenger car
6 cylinder passenger car
8 cylinder passenger car
Diesel passenger car
4 cylinder passenger car with trailer
6 cylinder passenger car with trailer
8 cylinder passenger car with trailer
Diesel passenger car with trailer
Taxi
Light 2-axle private vehicle (non auto)
Light 2-axle commercial vehicle (non auto)
Heavy 2-axle (dual rear tires)
3-axles single unit
3-axles trailer
4-axles
5-axles
Over 5-axles
Buses
Motorcycles

TYPE OF ESTABLISHMENT

03. Airport
06. Ferry or boat
09. Bus depot
10. Residential
20. Retail
21. Highway commercial
30. Wholesale
40. Office building and public service
51. Recreational — cabin
52. Recreational — provincial park
53. Recreational — hotel or lodge
54. Hunting/fishing
55. Camping
60. Manufacturing (industrial)
70. Construction site
80. Restaurant/club/entertainment centre
90. Agriculture
100. Forest materials site
110. Wharf (fish)
120. Food processing
130. Mining and related
140. Hospital/doctor/dentist
150. Other

PROPOSE OF TRIP

1. Work
2. Personal business
3. Medical/dental/legal
4. School (student)
5. Social/recreation
6. Change mode of travel
7. Shopping
8. Hunting/fishing
9. Other

HOME BASE OF VEHICLE

1. Origin
2. Destination

IF NEITHER O OR D SPECIFY CITY OR TOWN, OR OTHER PROVINCE OR STATE.